Report to Congress:

Administratively Necessary Days

PUBS
RA
971
.8
R47
1990

U.S. Department of Health and Human Services
Health Care Financing Administration

RA
971.8
.R47
1990
c.2

Report to Congress:

Administratively Necessary Days

U.S. Department of Health and Human Services
Health Care Financing Administration

September 1990
HCFA Pub. No. 03307

TABLE OF CONTENTS

		PAGE
	EXECUTIVE SUMMARY	i
I.	BACKGROUND	1
II.	STUDY APPROACHES AND DATA	2
III.	RESEARCH QUESTIONS AND STUDY FINDINGS	6
	1. Nursing Home Bed Supply	6
	2. Medicare and Medicaid Reimbursement Policies	14
	3. Hospital Effects	20
	4. Beneficiary Impact	25
	5. Financial Impact	30
	6. Summary of Findings	31
IV.	POLICY OPTIONS	33
	1. Pay for ANDs Directly	33
	2. Adjust PPS Rates for Nursing Home Access	34
	3. Adjust the Current Outlier Policy	35
	4. Pay a PPS Add-On for Post-Acute Care Including AND Costs	36
	5. Increase the Medicare Reimbursement Rate for SNF Care	36
V.	RECOMMENDATIONS	36
	REFERENCES	39
	APPENDIX A	A-1

EXECUTIVE SUMMARY

Concern has been expressed that the Medicare prospective payment system (PPS) may be causing financial hardship for hospitals that have difficulty discharging patients because of limited access to the nursing home market. In response to this concern, Congress passed section 9305(e) of the Omnibus Budget Reconciliation Act of 1986, Public Law 99-509, requiring the Department of Health and Human Services to study the issue. The specific congressional mandate was to determine whether payments should be made to hospitals for administratively necessary days (ANDs), separate from the diagnosis related group (DRG) and outlier payments. For purposes of this study, the legislation defines an AND as "a day of continued inpatient hospital stay, for an individual entitled to benefits under part A of title XVIII of the Social Security Act, necessitated by a delay in obtaining placement for the individual in a skilled nursing facility."

This report responds to the mandate of section 9305(e). The information contained in this report is based upon the research studies conducted by the Urban Institute of Washington, D.C., a member of the Brandeis University Health Policy Research Consortium.

The report comprises an executive summary and five sections. The first section explains the issue, while the next section describes the approaches taken to study the issue. The research questions addressed and their subsequent analyses are presented in the third section. The fourth section is a discussion of policy

alternatives, and the final section presents a recommendation. Briefly, the studies summarized in this report confirm that some hospitals incur delays in discharging patients to nursing homes. It is a very complex issue but, in general, discharge delays due to insufficient accessibility of nursing home beds can be attributed to four major factors:

1. area nursing home bed shortages;
2. low proportions of area nursing home beds certified to provide skilled nursing care;
3. stringency of Medicaid nursing home reimbursement; and/or
4. areas where the marginal cost of Medicare patients is not lower than the average facility cost and the Medicare payment ceiling.

The report also concludes that it is easier for hospitals to place Medicare patients in nursing homes where:

1. nursing homes have a high proportion of private pay patients;
2. Medicaid reimburses nursing homes on a retrospective cost basis; and
3. nursing homes' average costs are approximately equal to Medicare's payment ceiling.

The effect of nursing home market access on discharge delays is not large, on average, but it can constitute a burden for some hospitals. Addressing the issue is potentially difficult with several dimensions of complexity. First, it should be noted that Medicare PPS rates are based on Medicare reasonable operating costs (which include ANDs). In a sense, therefore, the system in the aggregate is already paying for ANDs.

As the PPS rates have shifted from a predominately hospital specific rate to a national or, in some cases, a blended regional rate, some hospitals that have higher than average AND costs are receiving less revenues. This is especially

true for hospitals in areas where limited access to nursing homes has persisted. Other hospitals are experiencing increasing revenues as the PPS rates have shifted, thus having more than enough dollars available to cover incurred AND costs.

An equitable adjustment to compensate hospitals for justifiable AND costs would be somewhat problematic. A budget neutral adjustment would necessarily involve a reallocation of payments from one group of hospitals to another. Whether such a redistribution is appropriate or possible depends on the extent of the problem and the complexity of the solution. The data needed to make such an adjustment are not readily available due to limitations in hospital reporting requirements and inherent difficulties in explicitly measuring ANDs. Further, it is uncertain whether or not accurate data could be collected and how burdensome that would be to hospitals.

If the total costs associated with ANDs are sufficiently large, some response would be warranted because of the effect on the financial status of adversely affected hospitals. However, the studies conducted provide evidence that, overall, the financial effect of ANDs is relatively small and primarily impacts a subgroup of hospitals.

The subgroup of hospitals negatively affected by ANDs differs significantly from other hospitals. These hospitals are predominately found in the Middle and South Atlantic States as well as in the Medicare waivered States (States not paid pursuant to PPS). Generally, the hospitals affected are urban, nonprofit and

members of the Council of Teaching Hospitals. For 25 percent of the hospitals affected, ANDs appear to have increased hospital costs somewhere between 1.9 and 4.5 percent above the national average. On the other hand, the remaining 75 percent of all hospitals experience an increase in costs ranging from 0 to less than 1.9 percent.

Hospitals in waivered States may account for a substantial portion of the financial effect of ANDs on hospitals. Payment systems in States not subject to PPS do not totally discourage long lengths of stay and, as a result, may have encouraged care to be provided in the hospital rather than in a nursing home, which substantially influenced AND measures. Over 40 percent of the observable AND measures are associated with hospitals in waivered States, i.e., Maryland, Massachusetts, New Jersey, and New York, which account for only 10 percent of all hospital discharges. (By 1987 New York and Massachusetts were subject to the Medicare PPS, and by January 1989, New Jersey was as well. Currently, Maryland is the only State with a waiver from PPS.)

If ANDs do present a significant equity problem, it is not obvious that a separate AND payment is the solution. Five alternative policy responses are discussed in this report:

1. pay for ANDs directly;
2. adjust PPS rates for nursing home access;
3. adjust the current outlier policy;
4. pay a PPS add-on for post-acute care including AND costs; or
5. modify the Medicare reimbursement rate for skilled nursing facility (SNF) care;

Each of the above alternatives has advantages but each also has some potentially serious problems for reasons of either equity and/or efficiency. When reviewing

the policy options, it must be remembered that a major intent of PPS was to break the link between a hospital's own current costs, which it can control at least to a degree, and its reimbursement. Although the determinants of AND costs are generally not under the hospital's control, authorizing separate payments for ANDs would partially re-establish that link. Any adjustment should also include the major determinants of ANDs. This, however, would increase the complexity of the formula to a degree that would make it administratively unworkable. A more direct approach would be to address the problem of access to the nursing home market via changes in the way nursing home care is reimbursed by Medicare.

The 1987 Omnibus Budget Reconciliation Act (OBRA '87) is likely to mitigate some of the causative factors of ANDs. OBRA '87 does provide some incentives to the nursing home industry to admit more patients requiring a higher intensity of care. In addition, the law calls for expansion of Medicare's swing bed program and prohibits discrimination against both Medicare and Medicaid patients. However, ANDs are likely to persist in a small number of areas where nursing home bed supply continues to be constrained.

In summary, the issue of ANDs is complex. A recommendation of a definitive solution/policy is hampered by the fact that proxies were used to measure ANDs since no direct instrument was available. It is clear, however, that merely establishing a separate payment or reallocating PPS payments to compensate hospitals for ANDs will not solve the problem.

The solution must account for the barriers that restrict Medicare beneficiaries' access to skilled nursing beds. In addition, the solution must recognize the impact of other Medicare programmatic components such as home health benefits, the PPS outlier policy, and other PPS refinements since they are also likely to influence the effect of ANDs on hospitals. Therefore, it is recommended in this report that the current Medicare payment policy to hospitals be maintained. It is also advised that an evaluation of the effects of the demonstrations testing case-mix reimbursement methodologies for nursing homes be conducted. This task should be completed before any Medicare payment adjustments for ANDs are considered.

I. BACKGROUND

Medicare's prospective payment system (PPS) contains strong incentives for hospital efficiency and cost control. Because the hospital receives a preset payment for a patient's care, irrespective of how many days the patient is in the hospital, hospitals may gain financially when patients are discharged earlier than average for their diagnosis related group (DRG), and may experience a negative financial effect when patients are discharged later than average for their DRG.

A major way hospitals can reduce length of stay (LOS) for Medicare patients is by discharging patients to nursing homes when they no longer need acute care, but still have care needs that medically cannot be appropriately met by home care arrangements. (Medicare provides benefits for care rendered to beneficiaries in skilled nursing facilities (SNFs), but does not provide coverage for beneficiaries in intermediate care facilities (ICFs). When there is no nursing home bed available, however, the hospital may have no choice but to keep the patient for additional "administratively necessary" days (ANDs). These are days of continued inpatient hospital stay, for an individual entitled to benefits under Part A of title XVIII of the Social Security Act, necessitated by a delay in obtaining placement for the individual in a SNF.

Prior to PPS, hospitals were paid on a "cost per day" basis. The hospital's costs for ANDs were comingled with the costs of acute care days and were paid on an aggregate basis. There was no distinction between AND and acute care costs. Under PPS, the hospital's historic Medicare operating costs (including cost of ANDs) were used to calculate the DRG payment rate. Thus, the costs of ANDs were incorporated in the DRG payment amounts.

PPS allows for additional (outlier) payments for extremely costly patients, either because they have an exceptionally long LOS (including ANDs) or because they require exceptionally intensive care during their stay.

Congress enacted section 9305(e) of the Omnibus Budget Reconciliation Act of 1986, Public Law 99-509, requiring the Department of Health and Human Services to study the AND issue in response to concerns that hospitals having difficulty in discharging patients due to limited access to nursing home beds may be experiencing a financial hardship. Specifically, the congressional mandate required a determination as to whether separate AND payments should be made to hospitals in addition to the DRG and outlier payments. The Report to Congress was due on January 1, 1989.

II. STUDY APPROACHES AND DATA

The initial difficulty in studying the problem of ANDs was a lack of directly relevant data, since the current reimbursement system (PPS) provides no incentive for any hospitals to report ANDs except in outlier cases. Such data could be collected from medical records through a special survey of hospitals, but the time and expense involved in this approach was prohibitive.

Instead, a set of research questions was developed that was addressed by a series of seven studies. Several studies utilized various measures of discharge delays as proxies for ANDs; other studies addressed the nursing home industry's participation in the Medicare program. For purposes of these studies, nursing home bed supply was limited to total beds within the market area. This

constraint was unavoidable due to the limitations of available data. The geographic service areas were limited to three digit zip code areas within States that approximated standard metropolitan statistical areas. These service areas were used because of the homogeneity of market conditions. In addition, the studies focused primarily on nursing home services because it was found that home health care utilization was not a significant factor contributing to the AND problem. In fact, home health care utilization was higher in States with longer hospital lengths of stay.

The measures used as proxies for ANDs were obtained from three 1985 data sets: the General Accounting Office (GAO) Discharge Delay Survey of 1985, which was non-DRG specific; the Center for Professional Health Activities (CPHA) Professional Activity Study; and the Medicare Provider Analysis Review file (MedPAR). Data for 16 different DRGs were examined from MedPAR data files. The 16 DRGs chosen were those most frequently associated with post-acute hospital care, i.e., care provided in a SNF or nursing home. The implicit assumption made was that discharge delays are a proxy measure of ANDs. The specific variables examined included incidence of discharge delays (GAO), lengths of stay (CPHA), and the mean LOS, the percentage of stays between the mean and outlier threshold, and the percentage of stays greater than the outlier threshold (MedPAR). Although none of those data items measured ANDs directly, they were the most recent, consistent, and comparable measurements available.

Several other studies were conducted to identify significant factors that may directly or indirectly cause discharge delays. Using regression analysis techniques, the significance of each of the factors was tested. The factors identified and studied have been listed in Table B of Appendix A. A survey was also designed to complement the quantitative studies in order to learn if there were any significant reasons for ANDs other than those that can be quantifiably measured.

Discharge delays may also be due to differences in the severity of the patient's illness and/or medical practice patterns. The studies conducted do not differentiate between an AND and these medically related discharge delays. These medically necessary delays are, however, systemic and have a high probability of being randomly distributed given the level of the analyses conducted. The analytic level (three digit zip code areas within States) also prevents comparison among similar types of hospitals. An overview of the studies is provided in Table 1. The general details regarding each study are described in Appendix A.

This report is, in large part, the result of research studies conducted by the Urban Institute. Support for this research was provided by the Health Care Financing Administration (HCFA) Cooperative Agreement No. 18-C-98326/1-01 to the Brandeis University Health Policy Research Consortium of which the Urban Institute is a member. The specific studies conducted for and/or referred to in this report have been listed in the reference section. For a comprehensive explanation of the methodologies, data elements, and findings on which this

Table 1

Component Studies, with Data Sources

Analysis of Discharge Delays, Using GAO Discharge Delay Survey of 985 hospitals in 1985. (6)
Measures of Discharge Delay;i.e.,analysis of lengths of stay percent of cases with lengths of stay greater than national average but less than the outliers, and proportion of day outliers, using MedPAR data. (8)
Analysis of Effects of Secondary Insurance Coverage on Medicare Beneficiaries using data from the CPHA Professional Activity Study. (7)
Analysis of Hospital Cost Per Admission, using Medicare PPS 2 File. (14)
Urban Institute Ten-State Survey of Medicaid Officials, Hospital Discharge Planners and Nursing Home Administrators. (10)
Analysis of Nursing Home Medicare Admissions, using MMACS and MedPAR Data. (1)
Analysis of Marginal Cost of Medicare Admissions, using Medicare Cost Report Data. (2)

Note: The numbers in parentheses denote the study reports, as listed in the reference list.

MedPAR = Medicare Provider Analysis Review
Medicare PPS 2 = Second Year of PPS data
MMACS = Medicare Medicaid Automated Certification System

report is based, reference should be made to the studies listed in the References section of this report.

III. RESEARCH QUESTIONS AND STUDY FINDINGS

The major research questions and findings of the component studies are summarized in this section. Data Tables 2 through 8 highlight the study findings.

1. Nursing Home Bed Supply

Is there a problem with ANDs in the PPS era?

Whether the measure is discharge delays from the GAO Survey, longer LOS or outliers from MedPAR data, LOS from CPHA data files or cost per admission, the answer is fairly consistent. In some areas hospitals have more limited access to the nursing home market and thus have more difficulty discharging patients.

The financial effect on the typical hospital is not large. The impact is not distributed evenly, however, and it may be a burden for a small share of the nation's hospitals, as discussed further below.

Four States (Maryland, Massachusetts, New Jersey and New York) that were not under PPS in 1985 (the study period) had, on average, greater discharge delays than any States under PPS. This suggests that the States that initially had waivers exempting them from PPS--particularly New York and Massachusetts--

have longer discharge delays, for reasons that go beyond nursing home market access. Unlike PPS, the ratesetting systems in these States did not have the same incentives to reduce LOS and, in fact, may have encouraged the pattern of providing care within the hospital that in other States would be provided in nursing homes. This historical effect is very large and suggests that hospital discharge delays are more of a problem in these States than elsewhere. (By 1987 New York and Massachusetts were subject to the Medicare PPS, and by January 1989, New Jersey was as well. Currently, Maryland is the only State with a waiver from PPS.)

Does nursing home bed supply vary across States?

The nursing home bed supply varies considerably in different areas, and there is over a fourfold difference nationally. In 1985, the number of nursing home beds certified to care for Medicare or Medicaid patients per 1,000 of the elderly population ranged from a high of 91 in Minnesota to a low of under 23 in Florida (Table 2). The percent of beds certified for Medicare also varied widely, from a high of 88 percent in Nevada to a low of under 1 percent in Oklahoma. Similarly, variations exist in the percentage of beds certified to provide skilled nursing care.

There is a strong relationship between discharge delays experienced by a hospital and the proportion of discharges placed in a nursing home. Table 3 shows State-specific data on three measures of discharge delay, and the percentage of discharges to SNFs and ICFs for 16 DRGs that commonly lead to post-acute care. There is substantial variation across States.

Table 2

1985 Nursing Home Bed Supply

	Total Certified Beds Per 1,000 Elderly Persons[a]	% of Total Beds Certified for Medicare Patients	% of Beds Certified SNF[b]	% of Beds Certified ICF[c]
Minnesota	90.94	21.19	65.67	34.33
Wisconsin	85.26	16.48	94.04	5.96
South Dakota	81.35	6.49	60.80	39.20
Nebraska	78.72	7.17	18.24	81.76
Kansas	78.51	5.40	11.35	88.65
North Dakota	78.13	60.45	73.47	26.53
Iowa	76.54	2.73	3.07	96.93
Oklahoma	70.47	.73	1.10	98.90
Indiana	69.29	21.06	23.59	76.41
Rhode Island	67.96	20.51	22.97	77.03
Louisiana	67.10	8.11	8.3	91.70
Montana	65.28	33.52	59.93	40.07
Connecticut	62.73	74.62	79.98	20.02
Arkansas	62.64	4.09	65.53	34.47
Texas	61.36	3.63	13.75	86.25
Maine	60.83	4.00	4.60	95.40
Colorado	60.41	24.22	79.97	20.03
Ohio	60.38	52.46	52.92	47.08
Illinois	59.08	14.84	57.69	42.31
New Hampshire	58.38	7.61	9.85	90.15
Massachusetts	57.31	14.66	44.52	55.48
Georgia	54.93	27.81	89.26	10.74
Wyoming	51.17	19.50	85.48	14.52
Washington	51.01	12.65	92.25	7.75
Delaware	50.29	39.91	45.08	54.92
Vermont	48.94	19.07	21.44	78.56
Maryland	48.71	50.58	50.58	49.42
Pennsylvania	47.69	40.92	51.17	48.83
Tennessee	47.01	15.41	15.41	84.59
Michigan	45.03	59.92	76.48	23.52
Mississippi	44.87	2.33	86.59	13.41
Missouri	44.83	25.53	64.89	35.11
New York	44.18	75.16	75.32	24.68
Alabama	44.10	58.66	71.65	28.35
Utah	42.38	33.45	54.70	45.30
Kentucky	41.62	20.75	20.75	79.25
California	38.94	80.34	96.92	3.08
New Mexico	38.25	7.45	7.82	92.18
Virginia	38.06	10.28	10.28	89.72
Idaho	37.98	73.49	97.13	2.87
New Jersey	36.35	41.45	91.06	8.94
Oregon	36.17	11.50	14.56	85.44
District of Columbia	35.70	27.76	27.76	72.24
South Carolina	35.64	66.04	66.47	33.53
Alaska	32.71	26.62	95.14	4.86
North Carolina	31.07	43.59	47.36	52.64
West Virginia	30.59	44.87	47.27	52.73
Nevada	26.99	88.13	92.67	7.33
Hawaii	26.61	69.02	69.32	30.68
Florida	22.51	50.22	97.52	2.48

Source: 1985 Medicare-Medicaid Automated Certification Survey.
a = beds certified to care for either Medicaid or Medicare patients.
bSNF = Skilled Nursing Facility.; these beds may be certified for Medicare or Medicaid or both.
cICF = Intermediate Care Facility.

Table 3

Selected Measures of Hospital and Post-Acute Care Utilization by State
Selected (16) DRGs

SSA State Code from Provider ID Number	Measures of Discharge Delay: Average Length of Stay	% of Hospital Discharges with Length of Stay > Mean	% of Hospital Discharges with Length of Stay > Outlier Threshold	% of Hospital Discharges to SNFs or ICFs
Alabama	7.1	26.6	0.4	6.5
Alaska	6.0	18.8	0.8	7.0
Arizona	7.0	25.4	0.7	5.2
Arkansas	6.3	21.3	0.2	14.2
California	7.2	26.0	1.0	11.7
Colorado	6.0	19.9	0.2	14.3
Connecticut	9.0	38.5	1.2	8.2
Delaware	9.2	38.9	1.2	8.6
DISTRICT OF COLUMBIA	12.3	39.2	5.1	2.8
Florida	7.7	30.6	0.6	7.6
Georgia	6.9	23.1	1.1	10.6
Hawaii	6.3	18.5	1.0	7.7
Idaho	5.2	15.4	0.1	9.2
Illinois	8.5	34.1	1.1	15.1
Indiana	8.5	30.9	1.0	11.5
Iowa	6.3	22.3	0.2	21.6
Kansas	8.6	22.8	1.2	17.5
Kentucky	7.0	26.1	0.3	10.1
Louisiana	7.0	24.6	0.7	13.7
Maine	7.6	27.8	1.1	10.4
Maryland	10.1	40.5	2.3	4.4
MASSACHUSETTS	11.3	41.3	3.8	4.7
Michigan	7.9	30.3	0.8	8.0
Minnesota	6.4	21.8	0.4	19.5
Mississippi	6.9	24.9	0.4	7.6
Missiouri	14.1	29.7	1.3	14.6
Montana	5.3	15.2	0.2	15.4
Nebraska	7.1	23.9	0.6	20.7
Nevada	6.2	20.7	0.5	5.6
New Hampshire	7.8	30.0	1.1	12.8
New Jersey	13.7	48.2	4.7	6.4
New Mexico	6.7	22.3	0.6	9.7
NEW YORK	16.6	44.4	5.8	2.9
North Carolina	9.0	32.7	1.8	6.8
North Dakota	5.9	18.9	0.2	18.6
Ohio	8.0	33.1	0.6	11.6
Oklahoma	6.7	24.4	0.3	15.5
Oregon	5.6	18.8	0.2	9.6
Pennsylvania	8.4	35.3	0.8	8.0
Rhode Island	9.9	41.1	1.7	14.3
South Carolina	8.4	31.0	1.4	6.5
South Dakota	5.7	17.6	0.1	18.9
Tennessee	7.4	28.0	0.5	10.4
Texas	6.7	24.4	0.4	1.6
Utah	6.2	18.4	0.2	9.1
Vermont	7.9	29.5	1.2	9.5
VIRGINIA	10.0	35.5	2.3	9.3
Washington	6.1	19.8	0.4	12.4
West Virginia	6.9	24.7	0.3	4.6
Wisconsin	7.3	28.2	0.4	16.8
Wyoming	5.5	17.4	0.2	10.1

There also appears to be a systematic inverse relationship between percentage of discharges to SNFs and ICFs, on the one hand, and discharge delays on the other. Simple unadjusted comparisons of the experience of Minnesota, Wisconsin, Nebraska, South Dakota, and Iowa (underlined) with that of New York, Massachusetts, Virginia, and the District of Columbia (in capitals) highlight the pattern. The underlined States have particularly high proportions of patients discharged to SNFs or ICFs combined with lower than average discharge delays on all three measures; the opposite is true for the States in capitals.

Do nursing home bed shortages affect hospital discharge delays?

The impacts of several variables on several proxy measures for ANDs are shown in Table 4. The first variable is the supply of nursing home beds per 1,000 elderly persons. The analyses (refer to references 6, 7, and 8) consistently show that there is an inverse relationship between the total bed supply and the number of discharge delays. This relationship is consistent across data sets, alternative proxy measures of ANDs, and different subsets of the Medicare population. The results strongly suggest that the fewer nursing home beds per 1,000 elderly persons, the longer the hospital LOS, the higher the proportion of stays greater than the national mean, and the more outliers the hospital will experience. The implication is that hospitalized Medicare beneficiaries are more easily discharged in nursing home markets with a large number of beds. Nursing homes in markets

Table 4

Determinants of Discharge Delays: Summary of Results

	GAO Survey Discharge Delays	MedPAR Mean Length of Stay		MedPAR Percent of Stays Between Mean and Outlier Threshold		MedPAR Percent of Stays > Outlier Threshold	
		All States	PPS States	All States	PPS States	All States	PPS States
Mean of Dependent Variable (R2)	16.49	8.90 (0.62)	8.20 (0.66)	0.332 (0.40)	0.313 (0.35)	0.018	0.011
Bed Supply							
Beds Per 1000 Elderly	-0.55***	-0.06***	0.07***	0.12***	0.12***	-0.21***	-0.24***
Percent SNF	-0.05	-0.06***	-0.06***	-0.09***	-0.10***	0.06***	-0.07***
Medicaid Reimbursement							
Flat Rate	-0.24*	0.21***	0.39***	0.029***	0.026***	0.002***	0.003***
Prospective Strong	0.28**	0.83***	0.48***	0.018***	0.023***	0.004***	0.002***
Prospective Weak	-0.22	0.75***	0.41***	0.022***	0.026***	0.002***	0.0001***
Medicare Reimbursement							
Cost < 0.9 Ceiling	0.08	-0.104***	0.08***	-0.004**	-0.005***	0.0008***	0.001***
Cost > 1.05 Ceiling	-0.08	0.32***	0.10***	-0.008***	-0.005***	0.003***	0.002***
Waiver States							
NY/MA vs. PPS	0.40a**	3.73***	N.A.	0.04***	N.A.	0.012***	N.A.
NJ/MD vs. PPS	0.40a**	1.86***	N.A.	0.07***	N.A.	0.009***	N.A.
Nursing Home Arrangement							
Own SNF	-0.28**	-0.42***	-0.50***	-0.037***	-0.038***	-0.007***	-0.005***
Swing Beds	N.A.***	-0.09***	-0.20***	-0.021***	-0.020***	0.004***	-0.004***
Both	N.A.***	-1.07***	-1.18***	-0.100***	-0.100***	-0.016***	-0.011***
Other Arrangement	N.A.***	-0.07***	-0.11***	-0.005***	-0.007***	-0.0006***	-0.0006***

Note: Estimated elasticities and coefficients are reported only where significance levels are .05 or better. The omitted categories for the binary variables are: cost-based retrospective reimbursement for the Medicaid reimbursement variables, cost-to-ceiling ratios > .9 but < 1.05 for Medicare reimbursement, the PPS States for the waiver variables, and hospitals with no long term care arrangement for the long term care variables. The coefficients are to be interpreted relative to the omitted variable.

*Significant at the .10 level
**Significant at the .05 level
***Significant at the .01 level
N.A. = Not available.
a = Only one binary variable was used for all waiver States.

with fewer beds might be more selective and thus choose to serve other kinds of patients. The result is that hospital patients in market areas with fewer nursing home beds end up staying longer in hospitals.

The effect of bed supply is not large on average, however, with estimated elasticities ranging from -0.24 to -0.55, depending on the measure. That is, a 10 percent increase in the number of beds per thousand elderly may result in a reduction of discharge delays between 2.4 percent and 5.5 percent. The small impact is not surprising given that relatively few Medicare discharges need post-acute care. This impact is consistent with the observation that up until now less than 5 percent of Medicare beneficiaries are discharged to nursing homes or SNFs. (Note: Nursing home LOS was found not to be a significant factor in contributing to discharge delays (Reference 8).)

Does the percentage of nursing home beds certified as SNFs affect the ability of hospitals to discharge patients?

There is clear evidence from several data sets (References 6, 7) that the lower the percentage of beds certified to provide SNF care, the longer the hospital stays. Nursing homes certified to provide SNF care, in general, are more abundantly staffed and provide a wider range of services. These nursing homes, in principle, should be better equipped to provide for the more intensive care required by patients admitted directly from short-stay hospitals. As a result, markets with more nursing homes certified to provide SNF care should result in fewer patients remaining in hospitals. The data

analyzed in Table 4 confirm this expectation. The estimated impact of the percentage of beds certified to provide SNF care on measures of discharge delays varied substantially among studies (-.05 to -0.1). Again this means that a 10 percent increase in the percentage of beds certified for SNF care is likely to result in a reduction of discharge delays between 0.5 and 1.0 percent.

Does the percentage of nursing home beds certified to provide care to Medicare beneficiaries affect the ability of hospitals to discharge patients?

The study findings (Reference 8) imply the opposite--the more beds certified for Medicare the greater the discharge delays -- regardless of the measure used. This seemingly perverse result may reflect the fact that many States have legislation that has mandated Medicare certification, perhaps in response to the unwillingness of nursing homes to admit Medicare patients. The logic is that Medicare patients may become Medicaid patients in order to qualify for nursing home care, which shifts the financial burden to States. In response, States now require Medicare certification in order to increase the number of SNF beds available to Medicare beneficiaries and limit Medicaid costs. These study findings imply that, although a State policy of mandatory Medicare certification may increase the number of Medicare certified beds, this does not obligate nursing homes to accept Medicare patients (although a provider may not impose restrictions on the admission of Medicare patients that it does not also impose on the admission of all other patients) and has no measurable effect on nursing home admission policies. The policy of mandatory Medicare certification, therefore, may not cause a reduction in hospital discharge delays.

2. Medicare and Medicaid Reimbursement Policies

Do Medicaid nursing home reimbursement policies affect hospital discharge delays?

Access of Medicare beneficiaries to nursing home beds can be expected to depend on the structure of the nursing home industry, given the supply of nursing home beds. Because of the importance of Medicaid as a third-party payer in this industry, the staffing and case-mix of nursing homes can be expected to depend greatly on Medicaid policies. For example, if the Medicaid reimbursement system contains strong cost containment incentives, nursing homes are likely to respond by reducing case-mix and staffing commensurately. Nursing homes in States with prospective payment systems that do not take case-mix into account may be less well equipped to care for the heavier care needs of hospitalized Medicare patients. Study results (References 6,7,8) strongly support this expectation. Hospitals in areas with Medicaid prospective payment systems for nursing homes have consistently greater discharge delays than hospitals in States with retrospective cost based payment systems, regardless of the measure or data set used. Hospitals in States with flat rate or prospective nursing home payment systems also have higher percentages of LOS and cost outliers than hospitals under retrospective systems. Therefore, nursing homes in States with cost based Medicaid reimbursement systems appear to be more able to serve Medicare patients coming from hospitals.

Hospitals located in States with Medicaid case-mix reimbursement systems (Illinois, Maryland, Minnesota, New York, Ohio, West Virginia), however, had approximately 8.6 percent fewer discharge delays than those hospitals in States without case-mix reimbursement. As such, Medicare patients seemed to have greater access to nursing home beds in States with Medicaid case-mix reimbursement. This apparently occurred because incentives existed to develop an industry with the ability to care for patients with heavier care needs. Therefore, in areas where the nursing home market has the capacity to care for heavier need patients (those facilities with a higher average cost per case), Medicare beneficiaries' utilization of services and payments approximate the average nursing home patient.

Are Medicare SNF reimbursement rates high enough to encourage nursing home participation in Medicare?

Despite the fact that Medicare pays for only about 2 percent of all nursing home patients, its reimbursement policies do affect nursing homes' willingness to take Medicare beneficiaries from the hospital. This is because Medicare reimbursement policies are tied to the lower of the actual cost incurred by the nursing facility or a Medicare ceiling. If industry costs tend to be low, the additional costs of Medicare patients may exceed the Medicare ceiling, making nursing homes unwilling to take Medicare patients. Even if industry costs are high and if the nursing home has costs above the ceiling; Medicare patients will result in clear losses to the facility. Only if the cost of Medicare patients is lower than the Medicare

ceilings will the facility have strong incentives to admit Medicare patients. Therefore, only nursing homes with relatively high costs but also below Medicare ceilings are likely to have the staffing and service mix necessary to serve additional Medicare patients while avoiding financial losses.

The answer also depends somewhat on the volume of Medicare patients served. In general it is thought that Medicare patients have greater nursing and rehabilitation needs than other patients and, therefore, tend to be more costly to nursing homes than non-Medicare patients (Reference 13). According to estimated cost functions, Medicare patients are far more costly then either private or Medicaid patients. The marginal routine cost of an average Medicare patient is estimated to be about $124 per day, compared to $67 for private and $53 for a Medicaid patient. Nonetheless, pursuant to Section 1888 of the Social Security Act, Medicare bases its payment policies on the average costs of all SNFs with a ceiling at 112 percent of the mean (adjusted for wage differences).

When a nursing facility treats a high proportion of both Medicare patients and Medicaid patients that have a low average cost per patient day, Medicare's payment for the facility's actual average cost per day can still be less than the cost of caring for an average Medicare patient. Consequently, as Medicare volumes increase, the marginal cost of a Medicare patient declines and average facility costs increase. Thus, Medicare patients only become profitable for a nursing home at higher volumes, yet very few homes have such characteristics.

The complexity of Medicare incentives are reflected in results (References 6,7,8) that are somewhat inconsistent across studies. In general, however, it can be concluded that in areas where nursing home costs are, on average, greater than the Medicare ceiling, hospitals experience longer discharge delays and more outliers. There is also some evidence that hospitals located in markets where nursing homes costs are well below the ceiling have difficulty in placing patients. This is consistent with the view that the marginal costs of Medicare patients in such homes are higher than average facility costs.

Notwithstanding these cost constraints, nursing home participation in Medicare is most likely attributable to three factors. First, hospital-based facilities may participate to facilitate moving patients out of the hospital, where the marginal revenue from additional days is zero; thus, some marginal revenue is better than none when the patient cannot be sent home. Second, some Medicare patients eventually become private pay patients, which may be profitable to the nursing home. Third, nursing homes may decide to participate in Medicare to a small degree in order to maintain good relations with hospitals, physicians, and the community.

Has Medicare's PPS reduced hospital discharge delays?

PPS has most likely reduced hospital discharge delays, but lack of data prohibits a direct comparison of discharge delays prior to and after the implementation of PPS. However, our waivered States all had ratesetting systems with somewhat weaker incentives to reduce LOS than PPS, which

allowed some insight into the effect of PPS. The evidence (References 6,8) consistently shows that hospitals in the waivered States had substantially greater discharge delays. In addition to weaker incentives to reduce LOS, differences in medical practice patterns in these States may have also played a role in generating discharge delays.

More specifically, patients in New York and Massachusetts have mean LOS that are about 4 days longer, 4 percent more discharges that are long stays, and 1 percent more discharges that are outliers than in the nonwaiver States. Patients in New Jersey and Maryland have mean LOS that is about 2 days longer, 7 percent more discharges that are long stays, and 1 percent more discharges that are outliers, when compared to PPS States. Thus, the differential payment incentives within the groups of waivered States did not have consistently different impacts on the AND proxies.

Do hospitals with their own SNF units or swing beds discharge patients more easily under PPS than hospitals with no nursing home arrangement?

Hospitals with their own SNF units or swing beds, i.e., beds that can be used for either acute or post-acute care, should be able to discharge patients more promptly, shorten the LOS, and bill Medicare on a per diem basis for post-acute care. Hospitals that have an arrangement with freestanding nursing home facilities should also have an easier time discharging patients than hospitals with no such arrangement. Hospitals with their own SNF units have fewer discharge delays on all AND measures (References 6,8) than other

groups of hospitals. Hospitals with swing beds had fewer discharge delays (Reference 8) than all other groups of hospitals except those with SNFs.

The swing bed finding suggests that as Medicare expands its swing bed program in rural areas, as called for in Section 1883 of the Social Security Act, (as amended by Section 4005(b) of the Omnibus Budget Reconciliation Act of 1987), the number of ANDs experienced in those areas should decrease.

Do Medicare coverage policy and Medicaid eligibility policy affect hospital discharge delays?

The answer was unclear. Evidence on this question was limited to the 10 State surveys (Reference 10) of hospital and nursing home administrators. Medicare coverage policy, i.e., the definition of what constitutes skilled nursing care, was regarded by survey respondents as a very important factor in causing patients to remain longer in the hospital. Generally, respondents believed that the definition of such care was too restrictive and/or was not consistently or appropriately applied among fiscal intermediaries.

Recently, Medicare coverage policy has been revised and became effective for claims processed on or after April 1, 1988. It is not clear, however, what effect these changes will have on ANDs. HCFA transmittal No. 1365, amending the Part A Intermediary Manual, was issued in order to clarify what constitutes a covered level of care provided in SNFs. It was intended that the clarification would enhance the uniformity of coverage by Medicare fiscal intermediaries. However, the only result may be that more patients become eligible for Medicare SNF benefits. As a result of the

transmittal, respondents of the 10 State surveys (Reference 10) have reported an increase in retroactive denials, which has resulted in the loss of the rebuttable presumption, used in connection with the limitation of liability provision (Section 1879 of the Social Security Act), that the SNF did not know or have reason to know that the service furnished was not covered by Medicare. This has made nursing homes more cautious about accepting Medicare patients.

Medicaid eligibility requirements and delays in confirming the eligibility status of patients needing nursing home care were not consistently regarded as a barrier to hospital discharges by the respondents, although some survey respondents believed it to be a problem. Difficulties in identifying beneficiaries' assets and concern over Federal quality control penalties for errors were cited by some respondents.

3. Hospital Effects

Which kinds of hospitals are most affected by limited access to the nursing home market?

To determine which hospitals are most affected by the numerous variables that can affect access to the nursing home market, a calculation was performed that compared the estimated net contribution of each of the policy and market variables to the proportion of discharges that were outliers (Reference 8). Hospitals were arrayed according to the degree they were affected by these variables.

The hospitals in the upper 15 percent of this distribution were identified to be most adversely affected by the combination of nursing home market conditions and payment policies, i.e., those in areas with few nursing home beds, a low proportion of SNF beds, high or low cost-to-ceiling ratios, or prospective payment or flat rate Medicaid reimbursement systems. (Similar distributions were developed using the LOS equation with results similar to those reported here; outliers were more responsive than other dependent variables to the nursing home market variables.) These hospitals had at least a 13 percent higher rate of outliers than average. They also had higher mean LOS and a higher percentage of long stays. The two variables apparently causing these effects were the adverse nursing home market conditions and the Medicare/Medicaid policies applicable in the area.

The hospitals in this upper 15 percent of the distribution differed significantly from hospitals as a whole. Table 5 lists some attributes for this group of hospitals and for hospitals as a whole. A disproportionate number of hospitals in the upper 13 percent were from the Middle and South Atlantic States and from the waivered States. (Note: Two waivered States are included in the South and Middle Atlantic States.) Whereas 26 percent of all discharges were from hospitals in the Middle Atlantic and South Atlantic States, 66 percent of the hospital discharges adversely affected by nursing home market and policy conditions were in those States. Also of note is the fact that only 10 percent of all discharges occurred in waivered States; however, over 40 percent of the observations in the adversely affected group were in waivered States. Urban hospitals, nonprofit hospitals, and members of the Council of Teaching Hospitals were also disproportionately represented.

V

Table 5

Sample Attributes of All Observations and of a Subset of Observations Most Adversely Affected by Nursing Home and Policy Variables

(Estimates Based on Outlier Equation in Table 4)

Variables	Unweighted Means All	Subset
Region		
New England	.051	.008
Mid Atlantic	.115	.406
South Atlantic	.146	.257
East North Central	.176	.111
East South Central	.066	.000
West North Central	.147	.094
West South Central	.137	.053
Mountain	.050	.043
Pacific	.112	.028
Urban/Rural		
Urban	.538	.690
Rural	.462	.310
Waiver States		
Waiver	.101	.406
NY/MA	.070	.307
NJ/MD	.031	.098
PPS	.899	.594
Ownership		
Government	.263	.170
Proprietary	.111	.072
Nonprofit	.626	.758
Number of Beds	191	263
COTH Teaching Hospital	.069	.137
Average Length of Stay	8.73	11.9
Proportion Long Stays	.30	.389
Proportion Outliers	.016	.047

Note: The All column indicates the proportion for each category for the entire sample. The subset indicates the proportions for hospital discharges in the upper 15 percent of the distribution.

The values in the table are means for the continuous variables and are the proportion (in the category) that have the attribute for the binary varibles.

Do hospitals with limited access to the nursing home market have higher hospital costs per admission?

There is consistent evidence that nursing home bed supply and Medicaid reimbursement policies affect hospital costs per admission even when controlling for differences in other hospital characteristics. These results (Reference 15) are based on analyses of PPS States only--waivered States were excluded. The results are shown in Table 6. The elasticity of the effect of nursing home bed supply on cost per hospital admission per 1,000 elderly of - 0.04 indicates that a hospital in a market with 10 percent more nursing home beds would have 0.4 percent lower hospital costs per admission, all else being equal. The percent of SNF beds had a similar effect. Medicaid prospective payment systems also were found to increase hospital costs per admission from 2 to 6 percent compared to those in States with cost-based nursing home reimbursement.

There was evidence that hospitals with their own SNFs were able to reduce their costs per admission below that of other hospitals, but only in tight nursing home markets. This implies that hospitals have less difficulty discharging patients if nursing home market conditions are favorable.

Simulations were conducted to determine whether these cost impacts were large or small. The effect on hospital costs per case attributable to the nursing home market and reimbursement policy variables was

Table 6

The Effects on Nursing Home Bed Supply and Other Variables on Hospital Costs per Admission: Summary of Regression Results

	PPS States
Nursing Home Bed Supply	
Beds per 1000 Elderly	-0.04***
Percent SNF	-0.03***
Medicaid Reimbursementa	
Flat Rate	0.02
Prospective Strong	0.05***
Prospective Weak	0.06***
Case-mix	-0.01
Medicare Reimbursement	
Cost / Ceiling	-0.01
Hospital Nursing Home Arrangements	
Own SNF [a]	-0.02
Own SNF * (SNF Beds/Elderly)[b]	-0.03**
R2	0.66

Note: These are estimated using a double log specification. The omitted categories for the binary variables are: cost-based retrospective reimbursement for the Medicaid reimbursement variables, and hospitals with no long-term care arrangement for the long-term care variables. Regression also controls for other hospital nursing home arrangements, beds, case-mix, wages, the intern-resident ratio, disproportionate share, area population and percent of elderly population 75 and over.

a. Takes a value of one if the hospital has its own SNF unit and zero otherwise.

b. This variable is the product of the two nursing home bed supply variables and the own SNF variable.

**Significant at the .05 level
***Significant at the .01 level

calculated. A distribution of hospitals was made from the most to the least adversely affected.

Table 7 shows the values at the 75th, 85th, and 95th percentiles of the distribution. For 75 percent of the nation's hospitals, ANDs account for 1.9 percent or less of hospital costs. Conversely, for 25 percent of the nation's hospitals, ANDs appear to increase costs by at least 1.9 percent. For 15 percent of the hospitals, ANDs increase costs by at least 2.9 percent and for 5 percent of the hospitals, ANDs increase costs by at least 4.5 percent. While it was found that ANDs increased costs at certain hospitals, such as urban, teaching facilities, these same hospitals also realized some of the highest profit margins under Medicare PPS and do not, overall, appear to have been financially disadvantaged.

4. **Beneficiary Impact**

Are patients in some DRGs more likely to experience a delay in being discharged because of difficulties in access to the nursing home market?

Of the 16 DRGs most frequently associated with post-acute care, it was consistently found that stroke patients (DRG 14), patients with elective knee and hip replacement, patients undergoing hip and femur procedures (DRGs 209 and 210), and patients with organic disturbances and mental retardation (DRG 429) were more adversely affected by nursing home market conditions (Reference 7). These patients have substantially higher than average

Table 7

Distributions of Cost Attributed to ANDs
as Percentage of Total Costs

(0 = mean impact)

Percentile		
75th	85th	95th
1.9	2.9	4.5

Note: The unit of observation is the hospital.
Waiver States are excluded.

rehabilitation, nursing, and other needs, which appear to put them at a greater disadvantage in securing placement in nursing homes in markets with relatively few beds or constrained reimbursement policies.

Are some types of Medicare beneficiaries more disadvantaged than others because of their secondary insurance status?

The particular concern here is access for dually-eligible Medicare/Medicaid beneficiaries when compared to other Medicare beneficiaries in situations where bed supply is limited and Medicaid/Medicare reimbursement policies are more constrained. The reason for this concern is that nursing homes have been shown to prefer the more profitable private-pay patients (Reference 11).

A comparative analysis was conducted of dually-eligible Medicare/Medicaid beneficiaries, Medicare patients with private insurance and those with only Medicare insurance (Reference 6). The results are presented in Table 8. There were no major differences in hospital LOS linked to the effects of bed supply and Medicaid reimbursement policies. Nonetheless, dually-eligible beneficiaries had a more difficult time being placed in nursing homes than the other two groups in States with fewer beds and more constrained reimbursement policies, particularly Medicaid prospective payment policies. However, hospital LOS for these patients did not appear longer since they were more likely to be discharged home. Medicaid prospective payment policies had less of an effect on the Medicare-only beneficiaries and Medicare beneficiaries with private insurance coverage, possibly because

Table 8

The Effects of Secondary Insurance Status on Nursing Home Access: Summary of Regression Results

	Average Length of Stay	Pct to SNF/ICF	Pct to Home
		Medicare-Medicaid	
Nursing Home Bed Supply			
Beds per 1,000 Elderly	-0.04***	0.17***	-0.17***
Percent SNF Beds	-0.77**	-5.35***	3.75*
Medicaid Reimbursement			
Strong Prospective	0.80***	-7.25***	5.36***
Weak Prospective	0.62**	-3.16**	2.77**
Flat Rate	1.55***	-8.72***	5.92***
		Medicare Only	
Nursing Home Bed Supply			
Beds per 1,000 Elderly	-0.03***	0.06***	-0.09***
Percent SNF Beds	-0.87**	-1.26*	-1.25
Medicaid Reimbursement			
Strong Prospective	0.96***	-2.31***	1.24
Weak Prospective	0.89***	-1.30***	1.44*
Flat Rate	1.37***	-1.65***	1.33
		Medicare-Private Insurance	
Nursing Home Bed Supply			
Beds per 1,000 Elderly	-0.02***	0.03***	-0.05***
Percent SNF Beds	-1.21***	-1.49***	-1.24
Medicaid Reimbursement			
Strong Prospective	0.81***	-1.15***	0.08
Weak Prospective	0.92***	0.23	0.38
Flat Rate	1.47***	-0.72*	0.47

*Significant at the 10 percent level.
**Significant at the 5 percent level.
***Significant at the 1 percent level.

Note: The Medicaid reimbursement effects should be interpreted as the difference in the dependent variable when compared to retrospective reimbursement.

these groups have a substantially greater likelihood of becoming private-pay patients.

What factors determine Medicare admissions to SNFs?

Because the marginal costs of Medicare patients are typically higher than the average facility cost, as already noted, the incentives to admit Medicare patients are minimal at best. One study looked specifically at the issue of why nursing homes serve Medicare patients (Reference 1). First, facilities oriented to serving private-pay patients have higher Medicare admissions than facilities that predominately serve Medicaid beneficiaries. This is consistent with expectations, since such facilities that serve mostly private pay patients tend to use higher average resources per patient day, making them better able to meet Medicare patient needs without increasing the average intensity of resources used per patient day.

Second, facilities were more likely to admit Medicare patients in areas where Medicaid reimbursement was cost-based and where Medicaid SNF rates were high. But, the higher the Medicaid SNF rate, the more attractive were Medicaid patients relative to Medicare patients since Medicaid patients were less resource-use intensive. Nursing homes situated in States where Medicaid reimbursement was either a flat rate or prospectively based were less likely to admit Medicare patients.

Finally, the Medicare participation rate and the proportion of Medicare patients admitted were highest in for-profit facilities, hospital-based SNFs, and larger nursing homes.

5. Financial Impact

What is the overall cost of ANDs?

Because of the manner in which PPS rates are calculated and the fact that the Medicare cost reporting system does not identify ANDs, the actual cost of ANDs cannot be directly calculated. In order to get some idea of the cost of ANDs covered under PPS, a method of estimation was developed using regression analysis techniques to link average hospital costs per case to a set of area-specific variables. The independent variables used in the analysis were the total number of nursing home beds in the hospital's market area, the level of Medicare's nursing home reimbursement, and the type of Medicaid nursing home reimbursement, i.e., flat-rate, cost, or prospective, while the dependent variable was the hospital's average cost per case. These variables explained 66 percent of the variance observed. Based upon the values of the variables and the coefficients derived from the regression, a set of predicted values for the hospital's cost per case as impacted by ANDs was obtained. When compared to the mean costs for all hospitals, these predictions indicated whether a hospital's costs increased due to the effects of ANDs. The overall cost impact of ANDs was determined by multiplying the number of discharges at each negatively impacted hospital by the difference between

its predicted cost per case and the predicted mean cost per case and then summing these cost values. Applying this method resulted in a total estimate of $420 million in 1987 dollars, but actual AND costs could be significantly less. (This figure includes an estimate of $65 million for New York and Massachusetts which are now paid under PPS.)

SUMMARY OF FINDINGS

It was concluded from the research studies conducted that the incidence of ANDs, as evidenced by the proxy measure of discharge delays, can be attributed to four causative factors:

- area nursing home bed shortages;
- low proportions of area nursing home beds certified to provide SNF care;
- stringency of Medicaid nursing home reimbursement; and
- Medicare payments to nursing homes that are on average lower than private payments.

These findings are consistent across several measures of discharge delay, several data sets, and several studies.

It was found that the fewer nursing home beds per 1,000 elderly persons in a given market, the longer the average hospital LOS. There is also evidence that the lower the percentage of beds certified for SNF care, the longer the hospital stay. This same effect also occurs when a majority of nursing home beds have been certified for Medicare. This seemingly contradictory result reflects the fact that nursing homes are not obligated to accept Medicare patients (although a provider may not impose restrictions on the admission of Medicare patients that it does not also impose on the admission of all other patients). Consequently, the policy of required participation in the Medicare program may

not cause a reduction in hospital discharge delays. The number of discharge delays are less, however, for hospitals located in tight nursing home markets with their own Medicare certified SNF beds.

The occurrence of discharge delays for Medicare patients is also influenced by Medicaid payment policies and Medicare payment levels for nursing homes in particular areas. There is a higher incidence of such delays in States with prospective Medicaid payment as opposed to retrospective reimbursement. In States with Medicaid case-mix reimbursement, there are substantially fewer discharge delays when compared to States without such reimbursement methods. With regard to Medicare payment levels, nursing homes with relatively high costs are likely to have the staffing and service mix necessary to serve Medicare patients and avoid financial losses. Generally, such facilities are characterized as serving private-pay patients or are located in areas with either Medicaid cost or case-mix nursing home reimbursement methodologies. In addition, for-profit facilities, hospital-based SNFs, and larger nursing homes serve a greater proportion of Medicare SNF patients.

In addition to the above causative factors of ANDs, several other factors appear to influence the number of hospital ANDs.

- Hospitals in waivered States had substantially greater discharge delays than those in PPS States.

- Medicare nursing home coverage interpretations and Medicaid eligibility policies appear to affect the incidence of ANDs.

- Dually-eligible (Medicare/Medicaid) beneficiaries are more difficult to place in nursing homes than are Medicare-only or Medicare beneficiaries with private insurance coverage.

Overall, it was concluded that hospitals in unfavorable nursing home markets are at a relative disadvantage. The occurrence of ANDs is clearly dependent upon the causative factors listed above and influenced by a number of incidental factors. While most hospitals incur some ANDs, the cost of ANDs does not appear to be a significant financial problem except for a relatively small number of hospitals.

IV. POLICY OPTIONS

Five policy options have been considered to address the AND issue:

- pay for ANDs directly;
- adjust PPS rates for nursing home access;
- adjust the current outlier policy to include ANDs;
- pay a PPS add-on for post-acute care including AND costs; and
- increase the Medicare reimbursement rate for SNF care.

1. Pay for ANDs Directly

The first option is to pay a separate per diem rate for ANDs reported by hospitals, subject to review by HCFA or by Peer Review Organizations (PROs).

Hospitals would submit uniform reports to identify the number, cost, and reason for inpatient days incurred beyond the time at which the physician authorized discharge and document the nonavailability of SNF beds.

The disadvantages of this approach include:

- o increases in reporting burdens for hospitals;
- o increases in administrative workload for HCFA or PROs - hospital reports must be verified;
- o large potential for abuse - creates the incentive to keep Medicare patients beyond the normal LOS, especially in cases where AND payments exceed the hospital's marginal costs for those days; and
- o contradicts philosophy of PPS of paying a predetermined fixed amount per case.

2. **Adjust PPS Rates for Nursing Home Access**

This option proposes an adjustment to PPS rates similar to the current adjustment for indirect medical education. Hospitals with limited access to nursing homes would receive higher payments while hospitals with easy access would receive lower payments. The adjustment could be made to all DRGs or just those that most commonly lead to post-acute care. Adjusting the standardized amount for all DRGs would be administratively simpler, but a selective DRG adjustment would be more accurate and more equitable, benefiting those hospitals with a case-mix more likely to result in an AND problem.

The drawbacks of this option are:

- o any adjustment adds to PPS complexity - PPS already includes adjustments for teaching hospitals, hospitals with a disproportionate share of low income recipients, and other factors;
- o the more equitable allocation of payments may not be sufficient to warrant the administrative costs incurred;

- o the adjustment itself is complex - the adjustment factor, in order to be equitable, would have to account for nursing home bed supply factors such as, percentage of SNF beds, Medicaid reimbursement policies, Medicare payment levels for nursing homes, etc.; and
- o the adjustment would be difficult to administer, requiring sophisticated tracking to account for all the significant variables.

3. Adjust the Current Outlier Policy

The third option is to adjust the current Medicare day outlier policy reducing the day outlier threshold and decreasing the per diem day outlier payment. Under this option, a greater proportion of the costs of long stays could be reimbursed with no increase in total cost. Medicare cost outliers would not be affected by this change. For example, the day outlier payment could be reduced from the current 60 percent of the Federal per diem to 30 or 40 percent. Such a payment would still be above the current hospital-based nursing home rate. Medicare could also simply pay for outlier days at the hospital-based SNF ceiling rate for the area. While an adjusted outlier policy would not cover all of the AND costs of those hospitals where it is a problem, the adjusted outlier policy would compensate the hospital for some of the costs associated with ANDs.

The shortcomings of this option include:

- o the outlier adjustment is not specific to hospitals with an AND problem -proper targeting of the adjustment would be a complex undertaking;
- o potential for abuse - especially when the outlier payment would be above the current hospital-based nursing home rate, an incentive is created to keep Medicare patients beyond the normal LOS for the DRG; and

- o increased administrative burden for HCFA - would require increased review of outlier payments.

4. Pay a PPS Add-On for Post-Acute Care Including AND Costs; or

5. Increase the Medicare Reimbursement Rate for SNF Care.

Both of these options would require dramatic changes to the current Medicare payment methods for both nursing homes and hospitals and would be exceedingly complex from both a design and an implementation perspective.

More importantly, these options would not specifically address the issue where ANDs are a problem, and the costs to the Medicare program could substantially exceed the AND cost to hospitals. Consequently, these two options were regarded as inappropriate for addressing the AND issue.

V. RECOMMENDATIONS

When originally calculated, the PPS rates incorporated the costs of hospital discharge delays, i.e., ANDs. Accordingly, hospitals have been compensated on an average basis within each DRG rate for their AND experience. However, because of the variation of AND incidence among hospitals, the AND portion of the average PPS payment may exceed or be less than actual AND costs. In addition, relatively few hospitals actually experience significant financial costs as a result of ANDs, and those hospitals that seem to have the greatest incidence

of ANDs, i.e., urban teaching hospitals in New England, have also realized high Medicare profit margins.

OBRA '87 is likely to mitigate some of the causative factors of ANDs. OBRA '87 does provide some incentives to the nursing home industry to admit more patients requiring a higher intensity of care. In addition, the law calls for expansion of Medicare's swing bed program and prohibits discrimination against both Medicare and Medicaid patients.

All of the options identified would increase Medicare's administrative and/or program costs with no assurance they would relieve the financial burden of the few hospitals experiencing a significant AND problem. In addition, the following factors should be considered:

- The current Medicare PPS rates already include the costs of ANDs despite the fact that such payments are not hospital specific;
- The current Medicare outlier policy does, in general, compensate hospitals for long LOS;
- The accessibility of SNF beds for Medicare beneficiaries can at least partially be attributed to State policies toward the nursing home industry, policies beyond the domain of the Federal Government;
- None of the options guarantees an equitable solution to the AND issue; and
- The AND problem is relatively minor. In addition, hospitals with a large number of discharge delays were located in waivered States.

Therefore, it is recommended that the current Medicare payment policy to hospitals be maintained. It is also advised that an evaluation of the effects of the demonstrations testing case-mix reimbursement methodologies for nursing homes be conducted. This task should be completed before any Medicare payment adjustments for ANDs are considered.

REFERENCES

1. Bishop, Christine and Lisa Dubay. "Access of Medicare Patients to Post Hospital SNF Care." In draft, to be completed May 1988.

2. Dor, Avi. "The Costs of Medicare Patients in Nursing Homes." In draft, to be completed May 1988.

3. Dubay, Lisa and Joel Cohen. "The Effect of Cost Containment and Ownership on Nursing Home Costs, Casemix and Staffing." Forthcoming 1988.

4. Feder, Judith, Jack Hadley, and Stephen Zuckerman. "How Did Medicare's Prospective Payment System Affect Hospitals?" New England Journal of Medicine 317(14):867-873.

5. Feder, Judith and Scanlon, William, "The Underused Benefit: Medicare's Coverage of Nursing Home Care," Milbank Memorial Fund Quarterly 60(4):504-632, Fall 1982.

6. Holahan, John and Lisa Dubay. "The Effects of the Nursing Home Bed Supply on Hospital Discharge Delays." Urban Institute Working Paper 3710-01-01, May 1988.

7. Holahan, John. "Hospital Backup Days: Is it a Problem for Joint Medicare-Medicaid Beneficiaries?" Urban Institute Working Paper 3710-01-04, May 1988.

8. Kenney, Genevieve and John Holahan. "The Nursing Home Market and Hospital Discharge Delays Under PPS." May 1988.

9. Laudicina, Susan. "Comparative Survey of Medicaid Reimbursement Systems for Long-Term Care Services: State-by-State, 1980-1985." The Urban Institute Working Paper 3585-01, February 1987.

10. Laudicina, Susan. "Administratively Necessary Days and Medicare/Medicaid Patients: Findings of a Survey of Selected States. Urban Institute Working paper 3710-01, March 1988.

11. Scanlon, William. "Theory of the Nursing Home Market." Inquiry 17 (Spring 1980):25-41.

12. Shaughnessy, P.W., et al. "Nursing Home Casemix Differences Between Medicare and Non-Medicare and Between Hospital-Based and Freestanding Patients." Inquiry 22 (Summer 1985):162-177.

13. G. Straham. Nursing Home Characteristics, preliminary data from the National Nursing Home Survey, Advanced Data from Vital and Health Statistics, No. 131 DHHS Pub. No. (PHS) 87-1250. National Center for Health Statistics, No 131, DHHS Pub. No. (PHS) 87-1250. National Center for Health Statistics, Public Health Hyattsville, MD. March 27, 1987.

14. Waldo, D., K. Levit, and H. Lazenby. "National Health Expenditures, 1985," Health Care Financing Review 8(1) Fall 1986:1-21.

15. Welch, W.P., "The Cost Impact of Administratively Necessary Days." In draft, to be completed May 1988.

APPENDIX A

The first component study (Reference 6) analyzes data obtained by the General Accounting Office (GAO). GAO conducted a survey in 1985 of a representative sample of the nation's hospitals; 985 hospitals responded. The hospitals were asked about their difficulty in placing patients and whether this difficulty had increased since the introduction of the prospective payment system (PPS). The most important survey question for this administratively necessary days (AND) study was:

> "For Medicare patients you helped place in fiscal year 1985, please estimate the percentage who were released when the doctor approved discharge and the percentage who waited 2 days or less, 3 days to a week, or more than a week for discharge to post-hospital care services."

GAO provided the survey response data, which were merged with information about the survey hospitals, including nursing home bed supply, characteristics of the nursing home market, Medicaid nursing home reimbursement policies in the area, Medicare nursing home reimbursement policies , and Annual Hospital Survey data on the characteristics of each hospital (such as teaching status, ownership, and occupancy rates). The key question addressed by using this data base was whether discharge delays as measured by the survey responses are systematically related to nursing home capacity or reimbursement policy.

The Department of Health and Human Services formally reviewed the GAO study and provided the following comments:

- The report was difficult to evaluate since it was based on the perceptions of hospital discharge planners and not on quantifiable data.

- The report alleges that most discharge planners found it more difficult to place Medicare patients in skilled nursing facilities (SNFs) and home health agencies in 1985 then in 1982 prior to PPS. However, it is to be noted that the discharge planners' views, as summarized by GAO, made no claim that current discharges are being made at medically inappropriate points. Rather discharge planners' concern seems to stem from the possibly that their jobs have been made more difficult because hospitals, under the incentives of PPS, are acting in a medically more appropriate fashion than in the past.

- Further, it is argued that the issue is not whether the discharge planners' job is easy or difficult, but whether it is being performed adequately so that individuals get the care they required and experience good health outcomes after being discharged. In any event, and whatever the patterns, PPS is only one factor contributing to recent changes in the delivery of post-hospital care.

The second study (Reference 8) uses data from the Medicare Provider Analysis Review (MedPAR) data files of the Health Care Financing Administration (HCFA).

MedPAR records data on 100 percent of all Medicare discharges containing patient-specific information on diagnosis related groups (DRG), length of stay (LOS), and basic demographic characteristics. The three measures of discharge delay used in this study are average LOS, percentage of stays greater than the national geometric mean, but less than the outlier threshold, and percentage of stays exceeding the outlier threshold. To improve the accuracy of these measures as proxies for ANDs, focus was placed on the 16 DRGs most likely to be followed by formal post-acute care. The DRGs used in the study are listed in Table A. They include the 10 DRGs most often resulting in discharges to skilled nursing care, the 10 most often resulting in home health care (7 of which overlap the first group), and 3 additional DRGs selected because they are relatively often followed by post-acute care, either in absolute or percentage Table A

Table A

Selected DRGs with Most Frequent Discharge to Post-Acute Care

DRG #	Description	Discharges	Percent Discharged to SNF	Percent Discharged to ICF	Percent Discharged to Home Health	Rank SNF	Rank Home Health Care
14	Specific Cerebrovascular Disorders except TIA (Transient Ischemic Attack)	61,185	14.25%	4.09%	4.81%	1	2
210	Hip and Femur Procedures except Major Joint - age > 69 and/or CCa	23,339	30.23	7.64	6.39	2	9
89	Simple Pneumonia and Pleurisy - age > 69 and/or CC	66,843	9.75	5.51	3.49	3	4
127	Heart Failure and Shock	98,695	5.34	2.66	5.00	4	1
209	Major Joint and Limb Reattachment Procedures	31,419	14.68	3.18	8.60	5	3
296	Nutritional and Misc. Metabolic Disorders - age > 69 and/or CC	39,831	11.43	5.25	5.24	6	5
320	Kidney and Urinary Tract Infections - age > 69 and/or CC	26,672	13.20	7.03	4.54	7	16
182	Esophagitis; Gastro-enteritis, and Misc. Disorders - age > 69 and/or CC	63,401	3.78	2.06	2.51	8	7
174	Gastrointestinal Hemorrhage - age > 69 and/or CC	29,448	7.30	3.65	3.10	9	20
416	Septicemia - age > 17	14,779	13.82	5.36	4.43	10	24
88	Chronic Obstructive Pulmonary Disease	34,381	3.62	1.51	4.83	20	6
140	Angina Pectoris	67,972	1.76	1.07	2.25	21	8
148	Major Small and Large Bowel Procedures - age > 69 and/or CC	22,488	6.01	1.97	6.45	18	10
96	Bronchitis and Asthma - age > 69 and/or CC	36,417	3.78	2.27	3.59	17	12
243	Medical Back Problems	34,354	4.08	1.65	3.73	15	14
429	Organic Disturbances and Mental Retardation	8,629	16.14	8.11	4.28	16	45

Source: 1985 MEDPAR.

aCC = complicating conditions.

terms. The key question addressed in this study was whether discharge delays are related to the supply of nursing home beds and to policies that affect the incentives of nursing homes to admit Medicare hospital beneficiaries.

The third study (Reference 7) uses data from the Center for Professional Hospital Activities Professional Activity Study, which allowed comparison of Medicare hospital beneficiaries according to their secondary insurance coverage--specifically, Medicare/Medicaid beneficiaries, versus Medicare patients with secondary insurance, versus Medicare patients with no secondary insurance. The key question addressed in this study was whether some groups of Medicare patients (i.e., those without secondary insurance) are affected more adversely than others (i.e., those with secondary insurance) in tight nursing home markets or in markets where Medicaid and Medicare policies discourage the admission of heavier care patients.

The fourth study (Reference 14) uses the Medicare PPS 2 file containing data on the second year of PPS, merged with the nursing home bed supply and reimbursement policy variables. This study examines the factors (including discharge delays) that affect hospital costs per admission. The model utilized in this study is the same model that has been used in determining the HCFA teaching and disproportionate share adjustments in the current PPS formula. Explanatory variables include a Medicare case-mix index, teaching status, measures of metropolitan area size, the HCFA wage index, and disproportionate share of poor patients. The key question addressed is whether limited access to the nursing market results in high cost per admission for the hospitals affected.

Each of these studies tests a common set of hypotheses in a multiple regression framework. The major explanatory variables are shown in Table B. (For a complete description of the regression model refer to References 6,7,8.) The first variable is nursing home bed supply. The expectation is that discharge delays will be lower the higher the available bed supply. The second pair of variables--the percentage of beds certified to provide SNF care and the percentage certified for Medicare--are measures of the structure of the nursing home industry within each nursing home market. The expectation is that the higher the percentage of nursing home beds certified to provide SNF care or to provide care to Medicare patients, the more the nursing home market will be oriented toward sicker patients, the greater the access for Medicare patients, and the fewer the AND days.

The third variable is a measure of the stringency of Medicaid reimbursement policies. Information based on a 1980-85 survey of Medicaid nursing home policies in the 50 States is used to classify the Medicaid reimbursement systems into four types (Reference 10). The first is flat-rate arrangements under which the nursing homes are paid on the basis of a flat rate or set of class rates, with the rates being independent of any one facility's costs. The second system is facility-specific prospective payment with strong and weak efficiency incentives. Strong systems are defined as those where the rates are based on a nursing home's cost experience and are rebased no more frequently than every 2 years. The third system is prospective payment with weak incentives; those that rebase yearly and have less stringent cost ceilings, etc. The distinction is based on the fact that the more frequent the rebasing, the more the reimbursement system approaches a cost-based system. Reimbursement systems that rebase

Table B

Study Hypotheses

Explanatory Variables	Expected Effect	Rationale
1. Nursing Home Beds Per 65+ population	(-)	Greater supply, more access, fewer backup days; limited supply, tendency to serve patients with lower care needs, more backup days
2. Percent SNF Beds and percent Medicare Certified	(-)	More orientation to sicker patients, more access for Medicare patients, fewer backups.
3. Medicaid Prospective Payment	(+)	Tight policy, tendency of nursing homes to adjust staffing and casemix, fewer Medicare admissions, more hospital backups
4. Medicare Reimbursement		
AC < Ceiling	(?)	Tendency for nursing home average costs in state to be below Medicare ceilings; BUT marginal cost of Medicare patients may be above Medicare rate
AC > Ceiling	(?)	Tendency for nursing home average costs to be above Medicare ceilings; BUT marginal cost may be below Medicare ceiling
5. SNF Units/ Swing Beds	(-)	Tendency for hospitals with SNFs and/or swing beds to have fewer backup days than other hospitals; effect will be stronger in tight nursing home markets
6. Waiver States	(+)	Weaker incentives to reduce LOS in waiver States; thus should be more backup days; other policy variables likely to be less important

relatively infrequently loosen the tie between the rate and the facility's own costs and thus become more fully prospective. The fourth system is cost based or retrospective payment, the least stringent cost containment system of all.

The expectation is that nursing homes will respond to Medicaid programs with strong cost containment incentives by reducing case mix and adjusting staffing commensurately. Studies have shown, for example, that nursing homes are quite responsive to reimbursement system incentives in making both case-mix and staffing decisions (Reference 3). This response, in turn, will make nursing homes less well-equipped to care for heavy-care Medicare hospital beneficiaries. Therefore, it is expected that discharge delays will be greatest in States with strong cost containment arrangements.

The fourth variable is a measure of Medicare nursing home reimbursement policies. These policies are likely to be important determinants of nursing homes' decisions to admit Medicare patients from hospitals. Medicare pays on the basis of average costs up to a ceiling. Ceilings for this study (1985 data) are established at 112 percent of the national mean of the cost of freestanding facilities (on a wage-adjusted basis). If nursing home costs are low relative to Medicare ceilings, it may be possible for nursing homes to admit hospitalized Medicare patients, incur costs of caring for these patients, and remain below Medicare ceilings. Hospitals' discharge delays should be shortest in these instances. But if the marginal costs of these Medicare patients are above the average costs of caring for these patients, nursing homes should be less likely to admit Medicare patients and LOS stay should be longer. However, when nursing home costs are above the Medicare ceiling, nursing homes will clearly lose. Only

if the marginal costs of these Medicare patients are below both average facility costs and the ceiling on which payment is based can nursing homes be expected to admit Medicare hospital beneficiaries.

The fifth variable measures hospitals' control over nursing home beds. With many hospitals' having their own SNFs, the expectation is that these hospitals will be more likely than others to discharge patients to their own unit, allowing them to shorten the length of the hospital stay and bill Medicare on a per diem basis for post-acute care. Similar incentives exist for hospitals with swing bed units; these are beds that can be used for either acute or post-acute care and exist in rural areas. The advantage exists, to a lesser extent, for hospitals that have established relationships with freestanding SNFs to assure admittance of their hospital patients. Hospitals with any of these arrangements can be expected to have shorter discharge delays relative to other hospitals, all other things being equal.

The final variable was designed to measure the impact PPS itself has on discharge delays. Four States during the study period had waivers that exempted them from Medicare PPS: New York, New Jersey, Massachusetts, and Maryland. All four had their own ratesetting systems that varied considerably in design and structure, but each system clearly had weaker incentives to reduce LOS than PPS. It was not possible to isolate the effect attributable to waiver status from the effect of initial differences between the waiver and PPS States. Nonetheless, any major difference can certainly be interpreted as an indication that the PPS incentives themselves have had some effect on discharge delays, irrespective of any effect of nursing home bed supply.

Three other studies were also utilized in addressing the AND issue. One used a special Urban Institute survey of hospital and/or nursing home administrators and Medicaid officials in 10 States: New York, Massachusetts, the District of Columbia, Rhode Island, Vermont, North Carolina, Minnesota, Wisconsin, Florida, and Texas. The sample States were selected to represent both those with particularly long discharge delays and those without. Twelve officials in each State were asked whether there was an AND problem in their State and, if so, what was their perception of the causes. In particular, they were asked to indicate the relative importance of the nursing home bed supply, Medicaid reimbursement policies, and other factors. The purpose of the survey was to complement other studies with qualitative information that was more recent than the available quantitative data. The survey also provided information on two issues that are difficult to capture in the quantitative analysis. Respondents were asked whether a tight interpretation of Medicare coverage rules in their area contributed to discharge delays. In addition, inquiries were also made as to whether the Medicaid eligibility determination process in their area resulted in discharge delays. There was concern that delays in collecting information on beneficiaries' assets and income led to delays in determining Medicaid eligibility and thus in discharging patients from the hospital to a nursing home.

The final two studies examine possible reasons why nursing homes might be unwilling to admit Medicare nursing home patients. The Medicare skilled benefit is tightly restricted in both the types of patients covered and the types of nursing facilities that can provide covered care. The Medicare skilled nursing benefit covers 30 days of care in SNFs for beneficiaries who have been hospitalized for at least 3 consecutive days and require daily skilled nursing or

rehabilitation services resulting from the condition for which they were hospitalized. Because of these restrictions, less than 2 percent of all nursing home care is funded by the SNF benefit (References 5, 14).

One of the studies used the Medicare/Medicaid Automated Certification System and MedPAR data to identify whether or not a nursing home participates in Medicare, as well as the number of Medicare patients admitted. Explanatory variables included bed supply, percentage of beds certified to provide SNF care, Medicaid reimbursement policies, and Medicare reimbursement policies. The key issue addressed in this study was how nursing home markets and reimbursement arrangements affect nursing homes' willingness to participate in Medicare and to provide access for Medicare nursing home beneficiaries.

The other study (Reference 2) used Medicare nursing home cost report data from 1986 to estimate the marginal cost of Medicare patients. Medicare patients may be profitable for nursing homes once a facility has made a decision to serve heavy care patients in general and to devote a large share of its home to serving Medicare patients. In a facility oriented toward a lighter care mix of patients (Medicaid patients, for example), the marginal cost of Medicare patients was likely to be quite high and there may be little incentive for such facilities to respond to the increased demand for post-acute patients created by PPS. The key issue here was to determine the relationship between the additional nursing home cost of Medicare patients and the average cost of the nursing home, which is the basis of Medicare reimbursement.

CMS LIBRARY
3 8095 00012288 3

Health and Human Services
Health Care Financing Administration
1A9 Oak Meadows Building
6325 Security Boulevard
Baltimore, MD 21207